



Mr. James Saric, Remedial Project Manager
USEPA Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, IL 60604-3507

ARCADIS
10559 Citation Drive
Suite 100
Brighton
Michigan 48116
Tel 810.229.8594
Fax 810.229.8837
www.arcadis-us.com

Subject:

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies Monthly Progress Report
Area 1 – Morrow Dam to Plainwell Dam (December 2008)

SEDIMENTS

Dear Jim:

Attached is the 22nd monthly progress report for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Supplemental Remedial Investigation/Feasibility Study (SRI/FS) – Area 1. This progress report is submitted as per Paragraph 37 of the February 2007 Administrative Settlement Agreement and Order on Consent (AOC) for Remedial Investigations/Feasibility Studies (Docket No. V-W-07-C-864), as well as Section 7.1 of the associated Statement of Work (SOW). If you have any questions, please do not hesitate to contact me.

Date:

January 15, 2009

Contact:

Michael J. Erickson, P.E.

Phone:

810.225.1924

Email:

michael.erickson@
arcadis-us.com

Our ref:

B0064539.00014 #2

Sincerely,

ARCADIS

Michael J. Erickson, P.E.
Associate Vice President

Attachments

Copies:

Michael Berkoff, USEPA
Sam Chummar, USEPA
Michael Ribordy, USEPA
Paul Bucholtz, MDEQ (with Attachment A)
Jeff Keiser, CH2M HILL (with Attachment A)
Todd Goeks, NOAA (with Attachment A)
Kathy Huibregtse, RMT Inc.
J. Michael Davis, Esq., Georgia-Pacific LLC
David Guier, Millennium Holdings LLC
Stephen Weishar, Millennium Holdings LLC
Paul Montney, P.E., Georgia-Pacific LLC
L. Chase Fortenberry, P.G., Georgia-Pacific LLC
Garry Griffith, P.E., Georgia-Pacific LLC

**MONTHLY PROGRESS REPORT FOR THE ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE SRI/FS
AREA 1 (MORROW DAM TO PLAINWELL DAM)**

REPORT #22, DECEMBER 2008

**PREPARED BY ARCADIS
JANUARY 15, 2009**

ON BEHALF OF THE KALAMAZOO RIVER STUDY GROUP (KRSG)

SUBMITTED TO

**JAMES SARIC, REMEDIAL PROJECT MANAGER
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)**

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #22, DECEMBER 2008

**Significant Developments and Activities During the Period, Including Actions Undertaken
Pursuant to the AOC and SOW**

- On December 1, ARCADIS submitted to USEPA the proposed post-removal sediment sampling locations for the Plainwell TCRA. This sampling is described in Section 3.4.5 of the Area 1 SRI Work Plan.
- On December 1, ARCADIS distributed the agenda to the attendees for the December 4 meeting to discuss the Plainwell No. 2 Dam.
- On December 1, ARCADIS submitted the *Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties* report to USEPA. This submittal is in compliance with Section 2.2.1.1 of the SOW.
- On December 2, ARCADIS transmitted photographs taken by ARCADIS and USEPA during the November 20 Plainwell No. 2 Dam Area tour to USEPA. These photographs were also transmitted to MDEQ, MDNR, USFWS, and NOAA on December 3.
- On December 4, representatives of USEPA, MDEQ, USFWS, MDNR, and KRSG met in Plainwell to discuss the Plainwell No. 2 Dam.
- On December 5, the Peer Review Panel released the *Final Report – Peer Review of MSU's PCB Exposure and Effects Studies in the Floodplain of the Kalamazoo River*. The peer review process is discussed in Section 1.2.1.3 of the SOW.
- On December 9, ARCADIS submitted to USEPA a Phase 2 work plan for the Crown Vantage area. This sampling is described in Section 3.4.3 of the Area 1 SRI Work Plan.
- On December 9, ARCADIS submitted to USEPA a Phase 2 work plan for the focused step-out sampling in Area 1. This sampling is described in Section 3.4.4 of the Area 1 SRI Work Plan.
- On December 9, ARCADIS transmitted a CD to USEPA containing an updated version of the entire project database.
- On December 10, ARCADIS forwarded to USEPA the database files and shape file for Plainwell No. 2 Dam Area polygons.
- On December 10, USEPA notified ARCADIS that the Phase 2 Sampling Plan for the Portage Creek Sediment Investigation was approved. This sampling is described in Section 3.4.1.3 of the Area 1 SRI Work Plan.

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #22, DECEMBER 2008

- On December 10, USEPA notified ARCADIS that the revised SRI Phase 2 sediment core analyses plan was approved. This sampling is described in Section 3.4.1.1 of the Area 1 SRI Work Plan.
- On December 12, ARCADIS forwarded to MDEQ the work plan for the frozen sediment core processing.
- On December 18, USEPA and the KRSG participated in a conference call to discuss the draft AOC for the possible Plainwell No. 2 Dam Area removal action.
- On December 19, USEPA forwarded to ARCADIS the polygons used by FIELDS for mass/volume calculations in the Plainwell No. 2 Dam Area.
- On December 19 and 22, USEPA transmitted to ARCADIS a memo regarding scoping implementation of key recommendations in the peer review panel's report.
- On December 22, the Peer Review Panel forwarded to USEPA and ARCADIS the panel's comments on the soil-worm-PCB relationships.
- On December 22, USEPA, MDEQ, and the KRSG participated in a conference call to discuss Plainwell No. 2 Dam Area scope items.
- On December 23, USEPA provided to ARCADIS approval of the *Multi-Area Feasibility Study Technical Memorandum: Preliminary List of Possible Applicable and Relevant or Appropriate Requirements* (ARARs Tech Memo). This technical memorandum is discussed in Section 1.2.2.2 of the SOW.
- On December 24, USEPA transmitted to ARCADIS draft comments from CH2M HILL on the Phase 2 work plan for the Crown Vantage area and the Phase 2 work plan for the focused step-out sampling in Area 1.
- On December 24, USEPA sent to ARCADIS comments on the proposed post-removal sediment sampling locations for the Plainwell TCRA.
- The KRSG awaits USEPA's response to the letter requesting USEPA's data usability determination for existing data for purposes of the SRI/FS, which was submitted to USEPA on August 27, 2007. These data are described in Section 1.1.2 of the SOW.
- The KRSG awaits USEPA's comments on the remaining two Multi-Area FS documents (Section 1.2.2 of the SOW – Preliminary Remedial Technology Screening [Section 1.2.2.1] and Preliminary Permitting/Equivalency Requirements [Section 1.2.2.3]) and the Candidate Technologies and Testing

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #22, DECEMBER 2008

Needs Technical Memorandum (Section 4.1 of the SOW), which were submitted to USEPA on February 22.

Data Collected and Field Activities Conducted During the Period

- In December, ARCADIS continued to collect surface water column samples every other day at the upstream and downstream of the Plainwell TCRA project area. Table A summarizes the collected samples that were sent to TestAmerica Laboratories, Inc. (TestAmerica) for analysis. This sampling is discussed in Section 3.4.5 of the Area 1 SRI/FS Work Plan.
- During the week of December 1, ARCADIS began collection of Phase 2 sediment cores in Portage Creek. Table B summarizes the field data collected.
- On December 3 and 4, ARCADIS performed the bathymetric monitoring in the Plainwell TCRA area (Table C). This activity is described in Section 3.4.5 of the Area 1 SRI Work Plan.
- On December 8, 11, and 18, ARCADIS collected data from the three staff gauges located in the Plainwell No. 2 Dam Area. Table D summarizes the data collected.
- During the week of December 8, ARCADIS processed the Phase 2 sediment cores collected in Portage Creek. Table E summarizes the samples that were sent to TestAmerica for analysis.
- During the week of December 15, ARCADIS processed and submitted frozen sediment cores for analysis in accordance with the SRI Phase 2 sediment core analyses plan. The cores were placed into frozen storage in October 2007. Table F summarizes the samples that were sent to TestAmerica for analysis.

Laboratory Data Received During the Period

- In December, ARCADIS received laboratory data for the surface water samples collected between November 13 and December 5 (sample delivery groups [SDGs] TCRA100 and TCRA102). Table A presents a list of the samples for which data were received. The February 2009 monthly report will present the validated data for these samples.
- In December, ARCADIS received laboratory data for the yearling smallmouth bass collected in the Otsego City Impoundment (Area 2) (SDG KAL457). This fish sampling is described in Section 3.4.5 of the Area 1 SRI Work Plan. The February 2009 monthly report will present the validated data for these samples.

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #22, DECEMBER 2008

- On December 29, CDM forwarded to ARCADIS the results of the Plainwell No. 2 Dam Area data collected by CDM in December 2008.
- Validated data for the SDGs received in October are included in this monthly report. These data include the surface water samples collected between September 13 and October 14 (SDGs TCRA83, TCRA84, TCRA86 and TCRA88) (Table G). Attachment A contains the validation reports for these data packages. The enclosed CD also contains the electronic data deliverable for these data.

Problems

- There was not enough volume in the archived frozen sediment core samples to conduct the proposed TCL, TAL, and SEM/AVS analyses for the four river cores specified in the work plan. USEPA was notified regarding this on December 17.
- Surface water sample K30976 does not have any PCB results because the sample bottle broke during extraction. The sample was collected on September 23, 2008 from 10th Street.
- No surface water sampling was performed in the Plainwell TCRA project area on December 19 due to a winter storm warning. All work activities were suspended for health and safety reasons.

Actions Taken to Correct Problems

- Duplicate sediment cores are scheduled to be collected from the river during the week of January 5, 2009. These cores will be processed and sent to TestAmerica for TCL, TAL, and SEM/AVS analysis as outlined in the Area 1 SRI Work Plan.

Developments Anticipated During the Next Two Reporting Periods

- In January 2009, USEPA and KRSG will continue to correspond as necessary with the Peer Review Manager (see Section 1.2.1.3 of the SOW).
- In January 2009, USEPA, MDEQ, and the KRSG are scheduled to participate in a conference call to discuss resolution of the remaining CSM issues.
- In January 2009, ARCADIS is scheduled to submit a revised Conceptual Site Model (CSM) in response to USEPA and MDEQ comments received in November. The CSM is discussed in Section 1.2.1.4 of the SOW.
- In January 2009, ARCADIS is scheduled to submit to USEPA revised proposed post-removal sediment sampling locations for the Plainwell TCRA. ARCADIS will perform this sampling upon

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #22, DECEMBER 2008

receipt of USEPA approval of proposed sediment sampling locations and completion of removal of the Water Control Structure (WCS) and Phase 2 Cofferdam Area. This activity is described in Section 3.4.5 of the Area 1 SRI Work Plan.

- In January 2009, ARCADIS is scheduled to submit to USEPA the revised Phase 2 work plan for the Crown Vantage area and the revised Phase 2 work plan for the focused step-out sampling in Area 1. This sampling is described in the Area 1 SRI Work Plan.
- On January 5, 2009, ARCADIS is scheduled to submit the Final ARARs Tech Memo to USEPA.
- On January 13, 2009, ARCADIS is scheduled to submit to USEPA the revised proposed post-removal sediment sampling locations for the Plainwell TCRA.
- In February 2009, ARCADIS will forward to USEPA the validated data received in November as part of the January monthly report. This includes the surface water samples collected between October 12 and November 11 (SDGs TCRA90, TCRA92, TCRA94, TCRA97 and TCRA99).
- On February 15, 2009 ARCADIS is scheduled to submit to USEPA the Semi-Annual Progress Report for the period from August 2008 through January 2009. This submittal is discussed in Section 7.2 of the SOW.
- On February 15, 2009 ARCADIS is scheduled to submit to USEPA the Annual Area Work Report for Areas 2 through 7, as discussed in Section 1.1.1 of the SOW.
- By February 21, 2009 the Respondents are scheduled to submit to USEPA their updated certificates of insurance as discussed in Paragraph 92 of the AOC.
- By February 21, 2009 the Respondents are scheduled to submit to USEPA their sworn statements conveying the information required by 40 CFR 264.143(f) as discussed in Paragraph 96 of the AOC.
- On February 26, 2009 USEPA is planning to hold a public update meeting in Plainwell.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table A — Upstream/Downstream Surface Water Sampling — Plainwell
TCRA — Samples Collected and Data Received in December 2008

Sample ID	Sample Date	Data Received	SDG	Sample Location
K31029	11/13/2008	12/11/2008	TCRA100_SDSP	Farmer Street Bridge
K31030	11/13/2008	12/11/2008	TCRA100_SDSP	10th Street Bridge
K31031	11/15/2008	12/11/2008	TCRA100_SDSP	Farmer Street Bridge
K31032	11/15/2008	12/11/2008	TCRA100_SDSP	10th Street Bridge
K31033	11/17/2008	12/11/2008	TCRA100_SDSP	Farmer Street Bridge
K31034	11/17/2008	12/11/2008	TCRA100_SDSP	10th Street Bridge
K31035 [K31036]	11/19/2008	12/11/2008	TCRA100_SDSP	Farmer Street Bridge
K31037	11/19/2008	12/11/2008	TCRA100_SDSP	10th Street Bridge
K31038	11/21/2008	12/11/2008	TCRA100_SDSP	Farmer Street Bridge
K31039	11/21/2008	12/11/2008	TCRA100_SDSP	10th Street Bridge
K31040	11/23/2008	12/18/2008	TCRA102_SDSP	Farmer Street Bridge
K31041	11/23/2008	12/18/2008	TCRA102_SDSP	10th Street Bridge
K31042	11/25/2008	12/18/2008	TCRA102_SDSP	Farmer Street Bridge
K31043	11/25/2008	12/18/2008	TCRA102_SDSP	10th Street Bridge
K31044	11/29/2008	12/18/2008	TCRA102_SDSP	Farmer Street Bridge
K31045	11/29/2008	12/18/2008	TCRA102_SDSP	10th Street Bridge
K31046	12/1/2008	12/18/2008	TCRA102_SDSP	Farmer Street Bridge
K31047	12/1/2008	12/18/2008	TCRA102_SDSP	10th Street Bridge
K31048	12/3/2008	12/18/2008	TCRA102_SDSP	Farmer Street Bridge
K31049	12/3/2008	12/18/2008	TCRA102_SDSP	10th Street Bridge
K31050 [K31051]	12/5/2008	12/18/2008	TCRA102_SDSP	Farmer Street Bridge
K31052 ¹	12/5/2008	12/18/2008	TCRA102_SDSP	10th Street Bridge
K31053	12/7/2008	NR	--	Farmer Street Bridge
K31054	12/7/2008	NR	--	10th Street Bridge
K31055	12/9/2008	NR	--	Farmer Street Bridge
K31056	12/9/2008	NR	--	10th Street Bridge
K31057	12/11/2008	NR	--	Farmer Street Bridge
K31058	12/11/2008	NR	--	10th Street Bridge
K31059	12/13/2008	NR	--	Farmer Street Bridge
K31060	12/13/2008	NR	--	10th Street Bridge
K31061	12/15/2008	NR	--	Farmer Street Bridge
K31062	12/15/2008	NR	--	10th Street Bridge
K31063	12/17/2008	NR	--	Farmer Street Bridge
K31064	12/17/2008	NR	--	10th Street Bridge
K31065	12/21/2008	NR	--	Farmer Street Bridge
K31066	12/21/2008	NR	--	10th Street Bridge
K31067	12/23/2008	NR	--	Farmer Street Bridge
K31068	12/23/2008	NR	--	10th Street Bridge
K31069	12/27/2008	NR	--	Farmer Street Bridge
K31070	12/27/2008	NR	--	10th Street Bridge
K31071	12/29/2008	NR	--	Farmer Street Bridge
K31072	12/29/2008	NR	--	10th Street Bridge
K31073	12/31/2008	NR	--	Farmer Street Bridge
K31074	12/31/2008	NR	--	10th Street Bridge

See Notes on Page 2.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

**Table A — Upstream/Downstream Surface Water Sampling — Plainwell
TCRA — Samples Collected and Data Received in December 2008**

Notes:

NR - Data not received as of December 31, 2008.

SDG - Sample Delivery Group.

All samples analyzed by TestAmerica Laboratories, Inc. for PCBs and TSS.

Duplicate samples are in brackets.

¹MS/MSD performed on this sample.

No sampling performed on 12/19 due to a winter storm warning. All work activities were suspended for health and safety reasons.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/2/2008	PCT03-3	1.1	1.7	15	-	0-10	Brown fine to coarse sand, some fine to coarse gravel
						10-12	Dark orange brown fine sand, trace medium to coarse sand, trace fine to medium gravel, trace silt, trace organics (shells)
						12-15	Gray brown fine sand, trace medium to coarse sand, trace medium to coarse gravel, trace brick, trace silt
12/2/2008	PCT9-1	2.1	3.4	34	-	0-2	Gray brown fine sand, little organics (leaf litter & twigs), trace medium to coarse sand
						2-10	Dark gray fine sand, little organics (twigs, leaves & wood), trace silt
						10-22	Interbedded gray brown & dark gray brown fine sand, trace medium to coarse sand, trace silt, trace organics (twigs, roots & shells)
						22-25	Light gray brown fine to medium sand, trace coarse sand, trace organics (shells)
						25-34	Brown organic silt, trace organics (vegetation & roots)
12/2/2008	PCT09-6	1.4	1.6	16	-	0-2	Dark brown fine to medium sand, little coarse sand, little fine to coarse gravel
						2-6	Dark gray brown silt, little fine sand, trace medium to coarse sand, trace fine to coarse gravel
						6-12	Dark gray brown fine sand, little silt, trace medium to coarse sand, trace organics (wood & shells), trace seeds
						12-16	Dark gray brown fine sand, trace fine to coarse gravel, trace silt, trace organics (shells), trace glass
12/2/2008	PCT16-2	1.5	3.2	22	-	0-7	Dark brown organic silt, little organics (leaf litter & twigs), little fine sand
						7-16	Dark gray brown fine sand, trace medium to coarse sand, trace fine to coarse gravel, trace slag, slight odor
						16-22	Interbedded dark gray brown clayey silt & fine sand, trace fine to medium sand, trace fine to medium gravel, slight odor

See Note on Page 12.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/2/2008	PCT17-3	1.6	2.6	23	-	0-8	Gray brown fine to medium sand, little coarse sand, little fine gravel, trace organics (shells), trace glass
						8-14	Dark gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace silt, trace organics (shells), trace glass
						14-20	Light gray brown fine to medium sand, little coarse sand, little fine gravel, trace silt, trace glass
						20-23	Dark gray fine sand, trace silt, trace fine gravel, trace medium to coarse sand
12/2/2008	PCT19-7	1.8	3.4	34	-	0-1	Brown fine to medium sand, little fine to medium gravel, trace coarse sand, trace shells
						1-6	Dark gray fine sand, little silt, little fine to medium gravel, trace medium to coarse sand
						6-22	Dark gray brown fine sand, trace medium to coarse sand, trace fine to medium gravel, trace silt, trace organics (wood & shells)
						22-25	Dark gray brown fine to medium sand, trace coarse sand, trace shells
						25-34	Dark gray brown fine sand, trace medium to coarse sand, trace silt, trace organics (shells)
12/2/2008	PCT22-1	1.5	3.2	34	-	0-1	Dark brown organic silt, trace fine sand, trace organics (leaves & shells)
						1-3	Gray brown fine sand, little medium to coarse sand, trace fine gravel, trace coarse gravel equivalent 50% of interval
						3-14	Dark gray brown, fine sand, little silt, trace fine to medium gravel, trace medium to coarse sand
						14-34	Gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace organics (wood & roots)
12/2/2008	PCT24-1	0.2	3.8	35	-	0-3	Dark brown moderately degraded organics, trace fine sand
						3-25	Gray brown fine sand, trace medium to coarse sand, trace silt, trace organics (wood & shells), trace silt seam at 11" 1/4" thick
						25-31	Dark brown moderately to highly degraded organics
						31-35	Light gray brown fine sand, trace shells

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/2/2008	PCT36-4	1.8	4.0	37	0.6' comp	0-29	Brown fine to medium sand, trace coarse sand, trace organics (wood & vegetation), trace brick at 26" (seam), trace shells
						29-37	Brown fine sand, trace medium to coarse sand, trace silt, trace shells, trace twigs
12/2/2008	PPT10-2	2.6	2.5	26	-	0-1	Dark orange brown fine to medium sand, trace coarse sand, trace fine gravel, trace organics (shells)
						1-7	Dark gray brown grading to dark brown, trace fine sand, trace medium to coarse sand, trace medium to coarse gravel, trace silt, trace flooring (linoleum)
						7-11	Gray brown fine to coarse sand, trace fine to medium gravel, trace silt
						11-14.5	Dark gray brown fine sand, trace organics (twigs), trace silt
						14.5-15.5	Light gray clayey silt
						15.5-21	Dark gray brown fine sand, trace medium to coarse sand, trace silt, trace organics (vegetation), slight odor
						21-23	Gray brown clayey silt, trace highly degraded organics, slight odor
						23-24	Dark gray brown fine sand, trace medium to coarse sand, slight odor
						24-25	Light gray clayey silt
						25-26	Dark gray brown fine to medium sand, little coarse sand, trace fine gravel, trace silt
12/2/2008	SD-03	0.9	1.05	10	-	0-4	Orange brown fine to medium sand, trace coarse sand, trace fine gravel, trace shells
						4-7	Dark gray brown, fine to medium sand, trace coarse sand, trace fine gravel, trace shells
						7-10	Dark gray fine to medium sand, trace coarse sand, trace fine to medium gravel, trace organics (wood), trace slag, trace silt
12/2/2008	SD-04	1.2	0.7	8	-	0-7	Dark gray brown fine sand, little silt, trace organics (vegetation), trace fine to medium gravel at bottom of sample, light gray brown clayey silt seam at 2" 1/4" thick, slight odor

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/2/2008	SD-14	1.0	1.45	15	-	0-2	Dark brown organic silt, trace organics (leaves & vegetation)
						2-7	Dark gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace silt, trace organics (leaves, twigs & shells)
						7-15	Dark gray brown silt, trace fine sand, trace organics (roots & twigs), trace coarse gravel at bottom
12/2/2008	SD-15	0.4	2.5	23	-	0-1	Dark brown fine sand, little silt, little organics (leaves, roots & tree bark)
						1-8	Dark gray brown fine sand, trace silt, trace organics (roots), trace fine gravel
						8-22	Dark brown organic silt, trace organics (roots), trace fine sand
						22-23	Dark gray brown fine to medium sand, little fine to medium sand, trace coarse sand, trace silt
12/2/2008	SD-16A	1.2	2.3	19	-	0-1	Dark brown organic silt, little organics (leaves & roots)
						1-12	Dark gray brown fine sand, little silt, trace organics (twigs, shells), trace slag, trace fine gravel
						12-19	Dark gray brown fine sand, little to some fine to coarse gravel, trace medium to coarse sand, trace organics (twigs)
12/2/2008	SD-18	1.4	2.2	18	-	0-1	Brown fine sand, trace organics (twigs, leaves, shells), trace fine gravel
						1-10	Gray brown fine to medium sand, little coarse sand, little fine to medium gravel, trace organics (shells), trace silt
						10-18	Dark gray grading to dark brown fine to medium sand, little coarse sand, trace fine to medium gravel, trace glass

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/2/2008	SD-20	1.0	4.2	40	-	0-2	Brown fine sand, trace organics (wood, twigs & leaf litter), trace silt
						2-6	Dark gray brown highly degraded organics, trace fine sand, trace silt
						6-10	Dark gray brown fine to coarse sand, little fine gravel
						10-37	Gray brown clayey silt, intermittent fine sand seams, trace organics (roots), odor, moderately soft
						37-40	Dark gray brown organic silt, little fine sand, trace medium to coarse sand, trace fine gravel, odor, trace plastic
12/3/2008	PCT25-1	1.9	3.9	39	-	0-4	Gray brown fine to medium sand, trace coarse sand, trace fine gravel
						4-12	Gray brown fine sand, little dark brown silt, trace medium to coarse sand, trace fine gravel, trace organics (roots & twigs), trace slag
						12-17	Dark gray fine sand, trace silt, trace organics (wood), plastic, trace coal
						17-32	Gray grading to dark gray brown clayey silt, trace fine gravel at 30-32"
						32-34	Dark gray brown fine sand, trace medium to coarse sand, trace fine gravel
						34-39	Gray brown fine sand, little shells, trace medium to coarse sand
12/3/2008	PCT26-9	0.9	4.5	41	0.9' comp	0-5	Dark brown fine sand, trace medium to coarse sand, trace fine gravel, trace organics (vegetation, twigs & shells), trace silt
						5-7	Dark gray brown fine sand, little silt, trace organics (vegetation & twigs)
						7-31	Gray brown clayey silt, trace fine sand, trace organics (leaf & twigs)
						31-34	Light gray clayey silt
						34-38	Dark gray silt, little clay, trace fine sand, trace organics (vegetation), slight odor
						38-41	Brown fine sand, little silt, trace medium to coarse sand, trace light gray cinders

See Note on Page 12.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/3/2008	PCT31-2	1.4	1.6	11	0.5' comp	0-8	Gray brown fine sand, trace silt, trace organics (twigs, wood & shells), trace medium to coarse sand
						8-10	Dark gray brown silty fine sand, trace organics (vegetation)
						10-11	Gray brown fine sand, trace silt, trace organics (twigs, wood & shells)
12/3/2008	PCT33-1	0.4	5.1	52	0.5' comp	0-3	Brown fine to medium sand, little organics (twigs, shells & wood), trace coarse sand
						3-16	Brown fine sand, trace medium to coarse sand, trace fine gravel, trace organics (twigs), trace silt at 12-16"
						16-22	Dark brown fine sand & silt, trace organics (vegetation, twigs & shells), trace medium to coarse sand
						22-35	Interbedded brown, gray brown, orange brown fine sand, trace medium to coarse sand, trace organics (shells), trace dark brown silt, interbedding orange brown coloring (oxidation)
						35-39	Dark brown organic silt, trace fine sand, trace organics (shells)
						39-48	Light brown fine to medium sand, little coarse sand, trace fine gravel, trace organics (shells), trace silt
						48-51	Light brown fine sand, trace medium to coarse sand, trace shells, trace dark brown silt
12/3/2008	PCT42-3	2.55	4.2	46	-	51-52	Orange brown oxidized fine sand, little coarse sand, trace dark brown silt, trace organics (shells)
						0-16	Orange brown grading to brown fine sand, medium to coarse sand, trace organics (shells & twigs), trace medium to coarse gravel
						16-24	Dark gray brown mostly fine sand, some silt, trace medium to coarse sand, trace fine to medium gravel, slight odor
						24-46	Gray brow clayey silt, trace organics (vegetation & twigs), trace fine sand, odor, sheens

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/3/2008	PCT44-1	8.4	1.3	15	-	0-1	Dark brown silt, trace organics (twigs & vegetation), trace fine sand
						1-10	Gray brown silt, trace clay, trace organics (roots), little organics 7-9"
						10-15	Gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace organics (roots), trace silt
12/3/2008	PCT45-1	0.6	1.2	14	0.5' comp	0-1	Dark brown organic silt, trace organics (shells & roots)
						1-12	Dark gray brown clayey silt, trace organics (roots), trace fine sand
						12-14	Dark gray brown fine sand, trace silt, trace organics (shells & roots)
12/3/2008	PCT46-1	1.95	1.65	16	0.5' comp	0-3	Dark brown fine sand, little silt, trace medium to coarse sand, trace fine to medium gravel, trace organics (shells & roots), trace slag
						3-8	Gray brown clayey silt, trace fine sand
						8-14	Dark brown organic silt, trace fine sand, trace organics (shells & roots)
						14-16	Dark gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace organics (roots & shells)
12/3/2008	PCT48-4	3.4	4.0	23	1.1' comp	0-6	Light brown fine sand, little medium to coarse sand, trace fine gravel, trace organics (shells)
						6-12	Dark gray brown, fine to medium sand, little coarse sand, trace fine gravel, trace organics (wood & shells), trace brick
						12-23	Dark gray brown, fine sand, little moderate to highly degraded organics (wood), trace medium to coarse sand, trace fine gravel
12/3/2008	PCT50-6	1.2	1.4	7	0.5' comp	0-2	Dark brown fine to medium gravel, little fine to medium coarse sand, trace silt, trace brick, glass, wood
						2-7	Dark gray fine sand, little slag & wood, trace metal, trace silt, trace organics (roots), trace medium to coarse sand

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/3/2008	PCT51-1	1.4	1.2	9	-	0-1	Dark brown organic silt, trace organics (pine needles & twigs)
						1-2	Dark gray brown fine sand, little medium to coarse sand, trace slag, trace fine to medium gravel
						2-9	Dark gray brown clayey silt, trace organics (twigs & roots), sheens, odor
12/3/2008	PPT8-3	1.3	4.5	31	+/- 1.0' comp	0-6	Light brown fine sand, trace organics (twigs & shells)
						6-8	Dark brown fine sand, trace silt, trace organics (shells & twigs)
						8-12	Dark gray brown fine sand, little organics (leaves & twigs), trace silt
						12-21	Gray brown fine sand, trace silt, trace organics (roots)
						21-31	Dark gray brown fine sand, trace silt, trace organics (twigs & vegetation), trace coarse gravel at 21-24", dark orange brown fine sand at bottom of core
12/3/2008	SD-21	2.1	5.0	54	0.5' comp	0-6	Orange brown fine to medium sand, trace coarse sand, trace organics (twigs, roots & shells)
						6-19	Brown fine sand, trace medium sand, trace silt, trace organics (twigs)
						19-27	Dark gray brown fine sand, trace medium to coarse sand, trace silt, trace gravel, trace carpet
						27-40	Light gray grading to dark gray brown clayey silt, trace intermittent fine sand laminations, trace organics (roots, vegetation & wood), slight odor
						40-48	Dark gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace silt
						48-53	Gray brown clayey silt, trace organics (vegetation), odor
						53-54	Dark gray brown, trace medium to coarse sand, trace fine gravel, trace silt

See Note on Page 12.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/3/2008	SD-22	2.5	5.3	54	-	0-6	Brown grading to dark gray fine to medium sand, little coarse sand, trace fine gravel, trace organics (leaf litter & twigs), trace compact disc
						6-13	Dark gray brown fine sand, trace medium to coarse sand, trace organics (shells)
						13-24	Light gray brown clayey silt, fine sand laminations 1/4" thick at 21", slight odor
						24-27	Dark brown clayey silt, trace organics (vegetation), slight odor
						27-36	Dark gray brown fine sand, trace silt, trace organics (twigs), light gray clayey silt 1/4" thick at 22"
						36-43	Dark gray brown clayey silt, trace organics (vegetation), odor
						43-54	Dark gray brown fine sand, trace medium to coarse sand, trace silt, trace organics (wood & twigs), trace roofing shingle, trace medium gravel
12/3/2008	SD-25	2.0	7.2	86	0.6' comp, 0.3' lost	0-22	Brown fine sand, trace medium to coarse sand, trace organics (roots), trace intermittent dark brown seams, higher in organic content
						22-26	Dark brown fine sand, little organics (twigs & wood), trace medium to coarse sand
						26-58	Gray brown to dark gray brown fine sand, trace medium to coarse sand, trace intermittent dark brown organic seams (roots)
						58-79	Dark brown moderate to highly degraded organics, little fine sand, trace medium to coarse sand, odor
						79-86	Gray brown fine sand, trace medium to coarse sand, trace organics (shells), odor
12/3/2008	SD-27	1.9	2.0	17	-	0-2	Dark brown silt, trace organics (leaf), trace fine sand, trace fine gravel
						2-12	Dark gray brown silt, little clay, trace organics (vegetation & twigs), slight odor
						12-17	SAA grading to dark gray brown fine sand, little medium to coarse sand, trace silt, little fine gravel

See Note on Page 12.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/3/2008	SD-28	1.2	1.7	17	-	0-14	Dark gray brown fine sand, little organic interbedding (leaves & twigs), trace silt, trace shells
						14-17	Dark gray fine sand, trace silt, trace shells, trace organics (roots)
12/3/2008	SD-29	2.1	2.0	23	-	0-4	Brown fine sand, trace medium to coarse sand, trace fine gravel, trace organics (shells), trace silt
						4-19	Dark gray brown, fine sand, trace medium to coarse sand, trace fine gravel, trace silt, trace organics (vegetation & wood), trace glass
						19-23	Dark gray brown, fine sand and silt, trace organics (wood), odor, slight sheen
12/3/2008	SD-31	2.9	1.9	15	0.4' comp	0-3	Dark brown, trace organics (leaves & twigs), little fine sand, trace silt, trace plastics
						3-8	Gray brown fine sand, little fine to medium gravel, trace medium to coarse sand, trace silt, trace plastic
						8-15	Gray brown fine sand, trace coarse sand, trace fine gravel
12/8/2008	PPT01-01	2.2	4.4	24	15" comp	0-4	Dark brown organics and organic silt, trace fine to coarse sand, trace fine to medium gravel
						4-24	Dark gray brown clayey silt, trace organics (vegetation), trace fine gravel, dark brown fine sand seam at 8", odor
12/8/2008	PPT01-4	1.8	3.6	33	0.9' comp	0-1	Dark brown leaf litter, trace silt, trace wood, trace fine sand
						1-14	Dark gray brown fine to medium sand, trace coarse sand, trace fine gravel, trace silt, trace organics (leaves & twigs), dark gray in color 13-14"
						14-22	Brown fine sand, trace medium to coarse sand, trace silt, trace fine to medium gravel, trace organics (shells)
						22-33	Dark gray brown clayey silt, trace organics (wood & shells), light gray stringer at 26", odor

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/8/2008	SD-32	1.7	3.9	21	1.0' lost - coarse bottom	0-3	Dark brown organic silt, trace fine sand, trace organics (twigs, leaves & shells)
						3-6	Gray brown clayey silt, trace fine to medium gravel, trace organics (roots)
						6-9	Dark brown fine to medium sand, trace coarse sand, trace fine gravel, trace organics (twigs & vegetation)
						9-14	Gray brown clayey silt, fine sand seam 11-12", trace fine to medium gravel
						14-21	Dark gray fine sand, trace medium to coarse sand, trace fine to medium gravel, trace silt, odor
12/9/2008	PCT47-1	0.5	2.4	22	-	0-1	Gray brown fine sand, trace organics (twigs), trace silt
						1-6	Dark brown silt, little fine sand, trace organics (vegetation), odor
						6-8	Dark gray fine sand, little silt, trace clay, trace organics (vegetation), odor
						8-12	Dark gray brown fine sand, trace medium to coarse sand, trace fine gravel, trace slag
						12-18	Dark gray brown fine sand, little organics (twigs & vegetation), trace silt, odor
12/9/2008	PCT49-2	1.6	4.4	42	+/- 1.0' comp	18-22	Dark gray brown fine sand, trace medium to coarse sand, trace shells, odor, very small lens of tar-like consistency material
						0-6	Dark gray brown fine sand, trace medium to coarse sand, trace fine to medium gravel, trace silt, trace organics (wood & twigs), odor
						6-9	Dark gray brown silty fine sand, trace medium to coarse sand, odor
						9-11	Gray brown clayey silt, trace fine sand, odor
						11-15	Dark gray brown silty fine to medium sand, little coarse sand, little fine to medium gravel, odor
						15-42	Dark gray brown fine sand, little organic silt, trace fine to medium gravel, trace organics (shells), highly degraded vegetation

See Note on Page 12.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table B — Phase 2 Sediment Cores in Portage Creek — Cores Collected in December 2008

Date Collected	Location	Water Depth (ft)	Penetration (ft)	Recovery (in)	Comments	Interval (inches)	Description
12/9/2008	PCT53-9	2.2	2.8	17	-	0-17	Dark gray brown grading to brown fine to medium sand, trace fine gravel, little fine gravel at 14-17", trace organics (leaves & twigs), trace silt, trace slag at 13-17"
12/9/2008	SD-34	0.8	4.6	39	-	0-24	Dark gray brown organic silt, trace fine sand, trace fine gravel, trace organics (roots & twigs)
						24-26	Dark gray organic silt, trace clay, trace fine sand, at 26" light gray clay seam 2-3mm thickness
						26-39	Dark gray fine to medium sand, little coarse sand, little fine gravel, dark gray organic silt seam at 34-35"
12/9/2008	SD-35	2.2	2.9	29	-	0-6	Gray brown fine to medium sand, trace coarse sand, trace fine gravel, trace organics (twigs), trace silt
						6-9	Dark gray brown fine to medium sand, little organics (wood, twigs, roots & seeds/pits), trace coarse sand, trace fine gravel
						9-19	Gray brown fine to medium sand, trace coarse sand, trace fine gravel, light gray brown silt seam at 11" & 15" 1/2" each
						19-24	Dark gray brown organic silt, trace fine sand, trace organics (vegetation & twigs)
						24-29	Gray brown fine sand, trace medium to coarse sand, trace fine to medium gravel, trace silt
12/10/2008	PCT26-9	1.1	4.3	40		0-6	Gray brown fine to medium sand, trace coarse sand, trace organics (roots & shells), trace fine gravel
						6-29	Gray grading to dark gray clayey silt, trace intermittent fine sand seams, moderately soft increasing stiffness with depth, slight odor
						29-31	Dark gray fine sand, trace silt
						31-35	Light gray cinder/brick, trace silt, trace fine sand
						35-40	Dark gray brown fine sand, little to moderate highly degraded organics, trace silt

Note:

All samples collected via 3" Lexan.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table C – Bathymetric Surveying in the Former Plainwell Impoundment — Data Collected
in December 2008**

Date	Transect	Water Surface Elevation (ft , NGVD 1929)	Station ID	Sediment Elevation (ft , NGVD 1929)	Limit of Probing Elevation (ft , NGVD 1929)	Probing Description
12/4/08	T2	701.8	0+00	701.8	701.8	RRR
			0+10	697.6	693.1	Gravel/Rock
			0+20	695.6	689.1	Gravel
			0+30	700.3	696.3	Silt
			0+40	700.9	697.0	Silt
			0+50	700.7	697.2	Silt
			0+60	699.2	695.0	Silt
			0+70	698.9	694.4	Silt
			0+80	698.5	694.1	Silt
			0+90	698.0	692.8	Silt
			1+00	698.4	693.7	Silt
			1+10	696.3	690.7	Gravel
			1+20	694.9	687.7	Gravel
			1+30	697.4	691.3	Silt
			1+40	698.2	692.7	Silt
			1+45	701.8	694.5	Silt
12/4/08	T3	702.0	0+00	702.0	702.0	RRR
			0+10	701.0	700.0	RRR
			0+20	696.8	691.3	Gravel
			0+30	694.9	687.3	Gravel
			0+40	693.9	683.9	Sand
			0+50	695.8	685.8	Sand
			0+60	697.5	687.9	Sand
			0+70	698.5	690.4	Sand
			0+80	698.8	690.4	Sand
			0+90	699.0	691.8	Sand
			1+00	698.4	691.7	Sand
			1+10	698.0	691.5	Sand
			1+20	697.9	692.0	Sand
			1+30	699.6	696.4	Silt
			1+40	702.0	698.8	Silt
12/4/08	T4	702.0	0+00	701.7	701.4	RRR
			0+10	699.7	695.6	Silt
			0+20	700.6	696.8	Silt
			0+30	699.2	694.6	Silt -> Sand
			0+40	697.7	692.4	Sand -> Gravel
			0+50	697.5	691.3	Sand
			0+60	698.2	690.9	Sand
			0+70	698.4	694.3	Sand/Gravel
			0+80	698.1	689.9	Sand
			0+90	698.4	691.5	Sand/Silt
			1+00	697.4	690.1	Sand
			1+10	696.7	688.9	Sand
			1+20	699.9	693.9	Silt
			1+30	702.0	697.3	Silt

See Notes on Page 4.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table C – Bathymetric Surveying in the Former Plainwell Impoundment — Data Collected
in December 2008**

Date	Transect	Water Surface Elevation (ft , NGVD 1929)	Station ID	Sediment Elevation (ft , NGVD 1929)	Limit of Probing Elevation (ft , NGVD 1929)	Probing Description
12/4/08	T5	702.1	0+00	702.1	699.4	Silt
			0+10	700.0	696.0	Silt
			0+20	698.9	695.0	Silt
			0+30	697.1	691.8	Silt
			0+40	696.1	689.6	Sand
			0+50	697.4	690.3	Sand
			0+60	698.6	693.3	Sand
			0+70	698.9	692.9	Sand
			0+80	696.9	691.6	Gravel
			0+90	696.3	690.4	Gravel
			1+00	696.8	690.7	Sand/Gravel
			1+10	698.1	692.2	Sand
			1+20	699.9	694.7	Sand -> Silt
			1+30	701.5	697.6	Silt
			1+40	702.1	699.9	Sand
12/4/08	T6	702.6	0+00	702.6	700.2	Sand
			0+10	701.9	701.2	RRR
			0+20	698.9	695.2	RRR
			0+30	698.4	692.1	Sand
			0+40	700.5	696.4	Silt
			0+50	700.3	695.3	Sand
			0+60	699.4	694.6	Sand
			0+70	699.2	694.7	Sand
			0+80	699.5	695.1	Sand
			0+90	700.3	695.9	Sand/Silt
			1+00	699.7	695.4	Sand/Silt
			1+10	700.1	695.9	Silt
			1+20	698.4	693.7	Sand
			1+30	698.6	693.8	Sand/Gravel
			1+40	699.6	695.0	Sand
			1+50	701.1	698.6	Silt
			1+60	702.3	699.6	Silt
12/4/08	T7	703.4	0+00	703.4	703.4	RRR
			0+03	701.6	699.8	RRR
			0+13	700.6	696.9	Clay
			0+23	700.2	696.2	Clay
			0+33	699.9	695.8	Sand-Gravel
			0+43	699.5	695.2	Sand-Gravel
			0+53	699.4	695.2	Sand
			0+63	699.2	694.4	Sand
			0+73	699.9	695.7	Sand
			0+83	700.8	696.1	Clay/Silt
			0+93	699.4	694.4	Sand
			1+03	700.2	696.1	Sand
			1+13	700.2	692.2	Sand
			1+23	701.7	692.4	Sand
			1+33	702.6	693.4	Sand

See Notes on Page 4.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table C – Bathymetric Surveying in the Former Plainwell Impoundment — Data Collected
in December 2008**

Date	Transect	Water Surface Elevation (ft , NGVD 1929)	Station ID	Sediment Elevation (ft , NGVD 1929)	Limit of Probing Elevation (ft , NGVD 1929)	Probing Description
12/4/08	T8	703.8	0+00	702.2	698.6	Silt/Sand Vert Bank
			0+10	700.1	696.0	Silt
			0+20	699.0	694.0	Sand
			0+30	699.5	695.1	Gravel
			0+40	702.4	699.6	Sand
			0+50	702.3	700.1	Sand/Gravel
			0+60	702.2	699.9	Sand/Gravel
			0+70	702.1	699.9	Sand
			0+80	701.8	699.7	Gravel
			0+90	701.2	698.2	Gravel
			1+00	700.9	697.5	Gravel
			1+10	701.3	698.0	Gravel
			1+20	701.9	699.7	Gravel
			1+30	700.7	696.9	Gravel
			1+40	700.2	696.2	Gravel
			1+50	701.1	698.4	RRR
			1+60	703.8	703.8	RRR
12/3/08	T9	704.6	0+00	704.6	702.7	Silt/Clay
			0+10	702.5	699.9	Sand
			0+20	702.3	699.9	Gravel
			0+30	701.8	698.9	Gravel
			0+40	702.3	699.8	Gravel
			0+50	702.0	699.1	Gravel
			0+60	701.9	699.0	Gravel
			0+70	701.6	698.5	Gravel
			0+80	701.4	698.0	Gravel
			0+90	701.9	698.7	Silt/Clay
			1+00	700.4	695.4	Silt/Clay
			1+10	700.8	696.7	Silt/Clay
			1+20	701.9	698.1	Silt/Clay
			1+30	703.9	701.2	Sand
12/3/08	T10	706.3	0+00	706.3	706.3	RRR
			0+10	704.3	701.8	Sand
			0+20	704.3	702.0	Gravel
			0+30	704.6	702.5	Gravel
			0+40	705.1	703.0	Gravel
			0+50	705.3	703.7	Sand
			0+60	705.0	703.2	Gravel
			0+70	705.1	703.6	Gravel
			0+80	704.5	702.2	Gravel
			0+90	704.4	702.1	Sand/Gravel
			1+00	704.6	702.0	Sand
			1+10	703.6	700.7	Gravel
			1+20	703.6	700.6	Gravel
			1+30	703.9	701.4	Gravel
			1+40	703.7	700.6	Gravel
			1+50	703.8	700.9	Gravel
			1+60	704.2	701.8	Gravel

See Notes on Page 4.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table C – Bathymetric Surveying in the Former Plainwell Impoundment — Data Collected
in December 2008**

Date	Transect	Water Surface Elevation (ft , NGVD 1929)	Station ID	Sediment Elevation (ft , NGVD 1929)	Limit of Probing Elevation (ft , NGVD 1929)	Probing Description
12/3/08	T10 (Cont.)	706.3	1+70	704.0	701.6	Gravel
			1+80	703.4	700.5	Rock
			1+90	703.6	700.7	Gravel
			2+00	703.6	700.5	Gravel
			2+10	705.7	705.1	Rock

Notes:

ft - feet.

NGVD - National Geodetic Vertical Datum.

RRR - run-of-river rock.

All transects probed from south to north bank except for T10 (north to south bank).

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table D — Staff Gage Data — Plainwell No. 2 Dam Area — December 2008

Date	SG-1			SG-2			SG-3		
	Time	Elevation (feet)	Measured Flow (cfs)	Time	Elevation (feet)	Measured Flow (cfs)	Time	Elevation (feet)	Measured Flow (cfs)
12/8/2008	1340	721.5	195	1240	722.42	255	1030	724.55	905
12/11/2008	1115	721.85	259	1040	722.72	345	915	725.03	1127
12/18/2008	1130	722.15	281	1030	722.74	460	912	725.52	1713

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/9/2008	PCT25-1	K22798	0-2	PCB/TOC/Grain Size	
		K22799	2-6	PCB/TOC/Grain Size	
		K22800	6-12	PCB/TOC/Grain Size	
		K22801	12-17	PCB/TOC/Grain Size	
		K22802	17-24	PCB/TOC/Grain Size	
		K22803	24-32	PCB/TOC/Grain Size	
		K22804	32-36	PCB/TOC/Grain Size	
		K22805	36-39	PCB/TOC/Grain Size	
	PCT26-9	K55790	0-2	PCB/TOC/Grain Size	Location PCT26-9 was resampled on 12/10/08 to provide sufficient sample volume for TCL/TAL analyses, per ARCADIS/USEPA/MDEQ
		K55791	2-7	PCB/TOC/Grain Size	
		K55792	7-12	PCB/TOC/Grain Size	
		K55793 ¹	12-24	PCB/TOC/Grain Size	
		K55794	24-31	PCB/TOC/Grain Size	
		K55795	31-34	PCB/TOC/Grain Size	
		K55796	34-38	PCB/TOC/Grain Size	
		K55797	38-41	PCB/TOC/Grain Size	
	PCT31-2	K55833	0-2	PCB/TOC/Grain Size	
		K55834	2-6	PCB/TOC/Grain Size	
		K55835	6-11	PCB/TOC/Grain Size	
	PCT44-1	K55829	0-2	PCB/TOC/Grain Size	
		K55830	2-6	PCB/TOC/Grain Size	
		K55831	6-10	PCB/TOC/Grain Size	
		K55832	10-15	PCB/TOC/Grain Size	
	PCT47-1	K55823	0-2	PCB/TOC/Grain Size	
		K55824	2-6	PCB/TOC/Grain Size	
		K55825	6-8	PCB/TOC/Grain Size	
		K55826	8-12	PCB/TOC/Grain Size	
		K55827 ¹ [K56204]	12-18	PCB/TOC/Grain Size	
		K55828	18-22	PCB/TOC/Grain Size	
	PCT48-4	K55782	0-2	PCB/TOC/Grain Size	
		K55783	2-6	PCB/TOC/Grain Size	
		K55784	6-12	PCB/TOC/Grain Size	
		K55785	12-23	PCB/TOC/Grain Size	

See Notes on Page 8.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/9/2008 (Cont.)	PCT49-2	K55816	0-2	PCB, TCL/TAL, AVS/SEM, Grain Size	
		K55817	2-6	PCB, TCL/TAL, AVS/SEM	
		K55818	6-12	PCB, TCL/TAL, AVS/SEM	
		K55819	12-15	PCB, TCL/TAL, AVS/SEM	
		K55820	15-24	PCB, TCL/TAL, AVS/SEM	
		K55821	24-36	PCB, TCL/TAL, AVS/SEM	
		K55822	36-42	PCB, TCL/TAL, AVS/SEM	
	PCT50-6	K55836	0-2	PCB/TOC/Grain Size	
		K55837	2-7	PCB/TOC/Grain Size	
	PPT8-3	K55806	0-2	PCB/TOC/Grain Size	
		K55807	2-8	PCB/TOC/Grain Size	
		K55808	8-12	PCB/TOC/Grain Size	
		K55809	12-21	PCB/TOC/Grain Size	
		K55810 ¹ [K56203]	21-24	PCB/TOC/Grain Size	
		K55811	24-31	PCB/TOC/Grain Size	
	SD-27	K55786	0-2	PCB/TOC/Grain Size	
		K55787	2-6	PCB/TOC/Grain Size	
		K55788	6-12	PCB/TOC/Grain Size	
		K55789	12-17	PCB/TOC/Grain Size	
	SD-29	K55777	0-2	PCB/TOC/Grain Size	
		K55778	2-6	PCB/TOC/Grain Size	
		K55779	6-12	PCB/TOC/Grain Size	
		K55780	12-19	PCB/TOC/Grain Size	
		K55781	19-23	PCB/TOC/Grain Size	
	SD-31	K55812	0-2	PCB/TOC/Grain Size	
		K55813	2-8	PCB/TOC/Grain Size	
		K55814	8-12	PCB/TOC/Grain Size	
		K55815	12-15	PCB/TOC/Grain Size	

See Notes on Page 8.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/10/2008	PCT09-6	K55882	0-2	PCB/TOC/Grain Size	
		K55883	2-6	PCB/TOC/Grain Size	
		K55884	6-12	PCB/TOC/Grain Size	
		K55885	12-16	PCB/TOC/Grain Size	
	PCT19-7	K55848	0-2	PCB/TOC/Grain Size	
		K55849	2-6	PCB/TOC/Grain Size	
		K55850	6-12	PCB/TOC/Grain Size	
		K55851	12-24	PCB/TOC/Grain Size	
		K55852	24-34	PCB/TOC/Grain Size	
	PCT22-1	K55838	0-2	PCB/TOC/Grain Size	
		K55839	2-6	PCB/TOC/Grain Size	
		K55840	6-12	PCB/TOC/Grain Size	
		K55841 ¹ [K56206]	12-24	PCB/TOC/Grain Size	
		K55842	24-34	PCB/TOC/Grain Size	
	PCT26-9	K55858	0-2	PCB, TCL/TAL, AVS/SEM, Grain Size	
		K55859	2-6	PCB, TCL/TAL, AVS/SEM	Insufficient volume for grain size analysis below 2"
		K55860	6-12	PCB, TCL/TAL, AVS/SEM	
		K55861 ¹ [K56205]	12-24	PCB, TCL/TAL, AVS/SEM	
		K55862	24-29	PCB, TCL/TAL, AVS/SEM	
		K55863	29-36	PCB, TCL/TAL, AVS/SEM	
		K55864	26-40	PCB, TCL/TAL, AVS/SEM	
	PCT36-4	K55843	0-2	PCB/TOC/Grain Size	
		K55844	2-6	PCB/TOC/Grain Size	
		K55845	6-12	PCB/TOC/Grain Size	
		K55846	12-24	PCB/TOC/Grain Size	
		K55847 ¹ [K56207]	24-37	PCB/TOC/Grain Size	
	PCT45-1	K55890	0-2	PCB/TOC/Grain Size	
		K55891	2-6	PCB/TOC/Grain Size	
		K55892	6-12	PCB/TOC/Grain Size	
		K55893	12-14	PCB/TOC/Grain Size	
	PCT51-1	K55897	0-2	PCB/TOC/Grain Size	
		K55898	2-6	PCB/TOC/Grain Size	
		K55899	6-9	PCB/TOC/Grain Size	

See Notes on Page 8.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/10/2008 (Cont.)	PPT01-01	K55870	0-2	PCB/TOC/Grain Size	
		K55871	2-4	PCB/TOC/Grain Size	
		K55872	4-12	PCB/TOC/Grain Size	
		K55873	12-24	PCB/TOC/Grain Size	
	PPT01-4	K55853	0-2	PCB/TOC/Grain Size	
		K55854	2-6	PCB/TOC/Grain Size	
		K55855	6-12	PCB/TOC/Grain Size	
		K55856	12-22	PCB/TOC/Grain Size	
		K55857 ¹ [K56208]	22-33	PCB/TOC/Grain Size	
	SD-03	K55894	0-2	PCB/TOC/Grain Size	
		K55895	2-6	PCB/TOC/Grain Size	
		K55896	6-10	PCB/TOC/Grain Size	
	SD-14	K55886	0-2	PCB/TOC/Grain Size	
		K55887	2-7	PCB/TOC/Grain Size	
		K55888	7-12	PCB/TOC/Grain Size	
		K55889	12-15	PCB/TOC/Grain Size	
	SD-16A	K55874	0-2	PCB/TOC/Grain Size	
		K55875	2-6	PCB/TOC/Grain Size	
		K55876 ¹ [K56209]	6-12	PCB/TOC/Grain Size	
		K55877	12-19	PCB/TOC/Grain Size	
	SD-18	K55878	0-2	PCB/TOC/Grain Size	
		K55879	2-6	PCB/TOC/Grain Size	
		K55880	6-12	PCB/TOC/Grain Size	
		K55881	12-18	PCB/TOC/Grain Size	
	SD-32	K55865	0-2	PCB/TOC/Grain Size	
		K55866	2-6	PCB/TOC/Grain Size	
		K55867	6-9	PCB/TOC/Grain Size	
		K55868	9-14	PCB/TOC/Grain Size	
		K55869	14-21	PCB/TOC/Grain Size	

See Notes on Page 8.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/11/2008	PCT9-1	K55947	0-2	PCB/TOC/Grain Size	
		K55948	2-6	PCB/TOC/Grain Size	
		K55949	6-12	PCB/TOC/Grain Size	
		K55950	12-25	PCB/TOC/Grain Size	
		K55951	25-34	PCB/TOC/Grain Size	
	PCT16-2	K55969	0-2	PCB/TOC/Grain Size	
		K55970	2-7	PCB/TOC/Grain Size	
		K55971	7-12	PCB/TOC/Grain Size	
		K55972	12-22	PCB/TOC/Grain Size	
	PCT17-3	K55900	0-2	PCB/TOC/Grain Size	
		K55901	2-6	PCB/TOC/Grain Size	
		K55902	6-12	PCB/TOC/Grain Size	
		K55903 ¹ [K56210]	12-23	PCB/TOC/Grain Size	
	PCT33-1	K55952	0-2	PCB/TOC/Grain Size	
		K55953	2-6	PCB/TOC/Grain Size	
		K55954	6-12	PCB/TOC/Grain Size	
		K55955	12-16	PCB/TOC/Grain Size	
		K55956	16-22	PCB/TOC/Grain Size	
		K55957	22-36	PCB/TOC/Grain Size	
		K55958	36-39	PCB/TOC/Grain Size	
		K55959	39-48	PCB/TOC/Grain Size	
		K55960	48-52	PCB/TOC/Grain Size	
	PCT42-3	K55941	0-2	PCB/TOC/Grain Size	
		K55942	2-6	PCB/TOC/Grain Size	
		K55943	6-12	PCB/TOC/Grain Size	
		K55944	12-24	PCB/TOC/Grain Size	
		K55945	24-36	PCB/TOC/Grain Size	
		K55946	36-46	PCB/TOC/Grain Size	
	PCT46-1	K55961	0-2	PCB/TOC/Grain Size	
		K55962	2-6	PCB/TOC/Grain Size	
		K55963	6-12	PCB/TOC/Grain Size	
		K55964	12-16	PCB/TOC/Grain Size	

See Notes on Page 8.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/11/2008 (Cont.)	PCT53-9	K55973	0-2	PCB/TOC/Grain Size	
		K55974	2-6	PCB/TOC/Grain Size	
		K55975	6-12	PCB/TOC/Grain Size	
		K55976	12-17	PCB/TOC/Grain Size	
	SD-04	K55981	0-2	PCB/TOC/Grain Size	
		K55982	2-7	PCB/TOC/Grain Size	
	SD-15	K55965	0-2	PCB/TOC/Grain Size	
		K55966	2-8	PCB/TOC/Grain Size	
		K55967	8-12	PCB/TOC/Grain Size	
		K55968	12-23	PCB/TOC/Grain Size	
	SD-20	K55910	0-2	PCB/TOC/Grain Size	
		K55911	2-6	PCB/TOC/Grain Size	
		K55912	6-10	PCB/TOC/Grain Size	
		K55913 ¹ [K56211]	10-24	PCB/TOC/Grain Size	
		K55914	24-37	PCB/TOC/Grain Size	
		K55915	37-40	PCB/TOC/Grain Size	
	SD-21	K55932	0-2	PCB/TOC/Grain Size	
		K55933	2-6	PCB/TOC/Grain Size	
		K55934	6-12	PCB/TOC/Grain Size	
		K55935	12-24	PCB/TOC/Grain Size	
		K55936	24-27	PCB/TOC/Grain Size	
		K55937 ¹ [K56213]	27-36	PCB/TOC/Grain Size	
		K55938	36-40	PCB/TOC/Grain Size	
		K55939	40-48	PCB/TOC/Grain Size	
		K55940	48-54	PCB/TOC/Grain Size	
	SD-22	K55923	0-2	PCB/TOC/Grain Size	
		K55924	2-6	PCB/TOC/Grain Size	
		K55925	6-13	PCB/TOC/Grain Size	
		K55926 ¹ [K56212]	13-24	PCB/TOC/Grain Size	
		K55927	24-27	PCB/TOC/Grain Size	
		K55928	27-36	PCB/TOC/Grain Size	
		K55929	36-43	PCB/TOC/Grain Size	
		K55930	43-48	PCB/TOC/Grain Size	
		K55931	48-54	PCB/TOC/Grain Size	

See Notes on Page 8.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/11/2008 (Cont.)	SD-28	K55977	0-2	PCB/TOC/Grain Size	
		K55978	2-6	PCB/TOC/Grain Size	
		K55979	6-12	PCB/TOC/Grain Size	
		K55980	12-17	PCB/TOC/Grain Size	
	SD-34	K55916	0-2	PCB/TOC/Grain Size	
		K55917	2-6	PCB/TOC/Grain Size	
		K55918	6-12	PCB/TOC/Grain Size	
		K55919	12-24	PCB/TOC/Grain Size	
		K55920	24-26	PCB/TOC/Grain Size	
		K55921	26-36	PCB/TOC/Grain Size	
		K55922	36-39	PCB/TOC/Grain Size	
	SD-35	K55904	0-2	PCB/TOC/Grain Size	
		K55905	2-6	PCB/TOC/Grain Size	
		K55906	6-12	PCB/TOC/Grain Size	
		K55907	12-19	PCB/TOC/Grain Size	
		K55908	19-24	PCB/TOC/Grain Size	
		K55909	24-29	PCB/TOC/Grain Size	
12/12/2008	PCT03-3	K56006	0-2	PCB/TOC/Grain Size	
		K56007	2-6	PCB/TOC/Grain Size	
		K56008	6-12	PCB/TOC/Grain Size	
		K56009	12-15	PCB/TOC/Grain Size	
	PCT24-1	K55994	0-2	PCB/TOC/Grain Size	
		K55995	2-6	PCB/TOC/Grain Size	
		K55996	6-12	PCB/TOC/Grain Size	
		K55997	12-25	PCB/TOC/Grain Size	
		K55998	25-31	PCB/TOC/Grain Size	
		K55999	31-35	PCB/TOC/Grain Size	
	PPT10-2	K56000	0-2	PCB/TOC/Grain Size	
		K56001	2-7	PCB/TOC/Grain Size	
		K56002	7-12	PCB/TOC/Grain Size	
		K56003 ¹ [K56215]	12-21	PCB/TOC/Grain Size	
		K56004	21-23	PCB/TOC/Grain Size	
		K56005	23-26	PCB/TOC/Grain Size	

See Notes on Page 8.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

Table E — Phase 2 Sediment Cores in Portage Creek — Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)	Analysis	Notes
12/12/2008 (Cont.)	SD-25	K55983	0-2	PCB/TOC/Grain Size	
		K55984	2-6	PCB/TOC/Grain Size	
		K55985	6-12	PCB/TOC/Grain Size	
		K55986	12-22	PCB/TOC/Grain Size	
		K55987	22-26	PCB/TOC/Grain Size	
		K55988	26-36	PCB/TOC/Grain Size	
		K55989	36-48	PCB/TOC/Grain Size	
		K55990	48-58	PCB/TOC/Grain Size	
		K55991 ¹ [K56214]	58-72	PCB/TOC/Grain Size	
		K55992	72-79	PCB/TOC/Grain Size	
		K55993	79-86	PCB/TOC/Grain Size	

Notes:

All samples analyzed by TestAmerica Laboratories, Inc. Percent solids analyzed for in all samples.

Duplicate samples are in brackets.

¹MS/MSD performed on this sample.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

**Table F — Phase 2 Frozen Sediment Cores from Kalamazoo River —
Cores Processed in December 2008**

Date Processed	Location	Sample ID	Interval (inches)
12/15/2008	KRT5-4	K56018	0-2
		K56019	2-6
		K56020	6-12
		K56021	12-24
		K56022	24-32
	KRT6-2	K56064	0-2
		K56065	2-6
		K56066	6-12
		K56067	12-20
		K56068	20-24
		K56069 ¹ [K56218]	24-34
	KRT6-7	K56085	0-2
		K56086	2-6
		K56087	6-12
		K56088	12-19
		K56089	19-23
	KRT8-2	K56070	0-2
		K56071	2-6
		K56072	6-12
		K56073	12-21
		K56074	21-31
	KRT8-8	K56090	0-2
		K56091	2-6
		K56092	6-12
		K56093	12-21
	KRT10-1	K56080	0-2
		K56081	2-6
		K56082	6-12
		K56083 ¹ [K56220]	12-24
		K56084	24-26
	KRT11-1	K56037	0-2
		K56038	2-6
		K56039	6-12
		K56040	12-19
	KRT11-5	K56062	0-3
	KRT11-8	K56010	0-2
		K56011	2-6
		K56012	6-12
		K56013	12-24
		K56014	24-32
		K56015	32-36
		K56016	36-48
		K56017	48-51
	KRT12-1	K56033	0-2
		K56034	2-6
		K56035	6-12
		K56036	12-21

See Notes on Page 5.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table F — Phase 2 Frozen Sediment Cores from Kalamazoo River —
Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)
12/15/2008 (Cont.)	KRT12-4	K56023	0-2
		K56024	2-6
		K56025	6-12
		K56026 ¹ [K56216]	12-24
		K56027	24-33
	KRT12-8	K56075	0-2
		K56076	2-6
		K56077	6-12
		K56078 ¹ [K56219]	12-24
		K56079	24-31
	KRT13-8	K56055	0-2
		K56056	2-6
		K56057	6-10
	KRT14-1	K56063	0-2
	KRT14-5	K56041	0-2
		K56042	2-6
		K56043	6-12
		K56044	12-16
	KRT14-7	K56058	0-2
		K56059	2-5
	KRT15-4	K56060	0-2
		K56061	2-5
	KRT15-8	K56028	0-2
		K56029	2-6
		K56030	6-12
		K56031 ¹ [K56217]	12-24
		K56032	24-35
	KRT16-1	K56045	0-2
		K56046	2-6
		K56047	6-13
	KRT16-6	K56052	0-2
		K56053	2-6
		K56054	6-13
	KRT16-8	K56048	0-2
		K56049	2-6
		K56050	6-12
		K56051	12-14
12/16/2008	KRT6-8	K56103	0-2
		K56104	2-6
		K56105	6-12
		K56106	12-16
	KRT7-1	K56094	0-2
		K56095	2-6
		K56096	6-12
		K56097	12-15
		K56098	15-23

See Notes on Page 5.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table F — Phase 2 Frozen Sediment Cores from Kalamazoo River —
Cores Processed in December 2008

Date Processed	Location	Sample ID	Interval (inches)
12/16/2008 (Cont.)	KRT7-5	K56122	0-2
		K56123	2-6
		K56124	6-9
	KRT8-1	K56111	0-2
		K56112	2-6
		K56113	6-12
		K56114	12-14
	KRT8-5	K56115	0-2
		K56116	2-6
		K56117	6-12
		K56118	12-14
	KRT9-2	K56119	0-2
		K56120	2-6
		K56121	6-11
	KRT9-5	K56107	0-2
		K56108	2-6
		K56109	6-12
		K56110	12-15
	KRT9-8	K56130	0-2
		K56131	2-5
	KRT10-2	K56125	0-2
		K56126	2-6
		K56127	6-8
	KRT10-5	K56099	0-2
		K56100	2-6
		K56101	6-12
		K56102	12-18
	KRT13-1	K56128	0-2
		K56129	2-5
12/17/2008	KRT1-4	K56186	0-2
		K56187	2-6
		K56188	6-12
		K56189	12-15
	KRT1-6	K56174	0-2
		K56175	2-6
		K56176	6-12
		K56177	12-19
	KRT2-2	K56132	0-2
		K56133	2-6
		K56134	6-12
		K56135	12-24
		K56136 ¹ [K56221]	24-36
		K56137	36-48
		K56138	48-60
		K56139	60-64

See Notes on Page 5.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

**Table F — Phase 2 Frozen Sediment Cores from Kalamazoo River —
Cores Processed in December 2008**

Date Processed	Location	Sample ID	Interval (inches)
12/17/2008 (Cont.)	KRT2-6	K56160	0-2
		K56161	2-6
		K56162	6-12
		K56163 ¹ [K56225]	12-22
		K56164	22-27
	KRT2-7	K56194	0-2
		K56195	2-6
		K56196	6-10
	KRT2-8	K56155	0-2
		K56156	2-6
		K56157	6-12
		K56158 ¹ [K56224]	12-24
		K56159	24-36
	KRT3-1	K56182	0-2
		K56183	2-6
		K56184	6-10
		K56185	10-14
	KRT3-4	K56197	0-2
		K56198	2-6
		K56199	6-9
	KRT3-8	K56165	0-2
		K56166	2-6
		K56167	6-12
		K56168	12-16
		K56169	16-26
	KRT4-2	K56140	0-2
		K56141	2-4
		K56142	4-6
		K56143	6-12
		K56144 ¹ [K56222]	12-24
		K56145	24-27
		K56146	27-36
		K56147	36-48
		K56148	48-54
	KRT4-5	K56178	0-2
		K56179	2-6
		K56180	6-12
		K56181	12-15
	KRT4-8	K56190	0-2
		K56191	2-6
		K56192	6-12
		K56193	12-19
	KRT5-1	K56170	0-2
		K56171	2-6
		K56172	6-12
		K56173	12-22

See Notes on Page 5.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

**Table F — Phase 2 Frozen Sediment Cores from Kalamazoo River —
Cores Processed in December 2008**

Date Processed	Location	Sample ID	Interval (inches)
12/17/2008 (Cont.)	KRT5-3	K56149	0-2
		K56150	2-6
		K56151	6-12
		K56152 ¹ [K56223]	12-24
		K56153	24-36
		K56154	36-48
	KRT15-1	K56200	0-2
		K56201	2-6
		K56202	6-9

Notes:

All samples sent to TestAmerica Laboratories Inc. for PCB, TOC, and grain size analysis.
Duplicate samples are in brackets.

¹MS/MSD performed on this sample.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008**

**Table G — Results for Upstream/Downstream Surface Water — Plainwell TCRA — Samples Collected in
September and October 2008**

Sample I.D.: Location ID: Sample Date:	Units	K30958 09/13/08 Farmer St.	K30959 09/13/08 10th St.	K30960 09/15/08 Farmer St.	K30961 09/15/08 10th St.	K30962 09/17/08 Farmer St.	K30963 09/17/08 10th St.	K30964 09/18/08 Farmer St.
PCB Aroclors								
Aroclor-1016	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Aroclor-1221	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Aroclor-1232	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Aroclor-1242	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Aroclor-1248	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Aroclor-1254	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Aroclor-1260	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Total PCBs	µg/L	0.047 U	0.047 U	0.048 U	0.053 U	0.048 U	0.047 U	0.048 U
Miscellaneous								
Total Suspended Solids	mg/L	1	19.7	37.8	12	3.1	11.2	4.6

See Notes on Page 5.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table G — Results for Upstream/Downstream Surface Water — Plainwell TCRA — Samples Collected in
September and October 2008**

Sample I.D.: Location ID: Sample Date:	Units	K30965 09/18/08 10th St.	K30966 09/19/08 Farmer St.	K30967 09/19/08 10th St.	K30968 09/20/08 Farmer St.	K30969 09/20/08 10th St.	K30970 09/21/08 Farmer St.	K30971 09/21/08 10th St.
PCB Aroclors								
Aroclor-1016	µg/L	0.047 U	0.048 U	0.047 U	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Aroclor-1221	µg/L	0.047 U	0.048 U	0.047 U	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Aroclor-1232	µg/L	0.047 U	0.048 U	0.029 J	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Aroclor-1242	µg/L	0.047 U	0.048 U	0.047 U	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Aroclor-1248	µg/L	0.047 U	0.048 U	0.047 U	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Aroclor-1254	µg/L	0.047 U	0.048 U	0.047 U	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Aroclor-1260	µg/L	0.047 U	0.048 U	0.047 U	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Total PCBs	µg/L	0.047 U	0.048 U	0.029 J	0.049 U [0.048 U]	0.048 U	0.047 U	0.048 U
Miscellaneous								
Total Suspended Solids	mg/L	32.5	4.3	11.4	9.3 J [3.8 J]	8.5	24.6	NA

See Notes on Page 5.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table G — Results for Upstream/Downstream Surface Water — Plainwell TCRA — Samples Collected in
September and October 2008**

Sample I.D.: Location ID: Sample Date:	Units	K30972 09/22/08 Farmer St.	K30973 09/22/08 10th St.	K30975 09/23/08 Farmer St.	K30976 09/23/08 10th St.	K30977 09/24/08 Farmer St.	K30978 09/24/08 10th St.	K30979 09/26/08 Farmer St.
PCB Aroclors								
Aroclor-1016	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Aroclor-1221	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Aroclor-1232	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Aroclor-1242	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Aroclor-1248	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Aroclor-1254	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Aroclor-1260	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Total PCBs	µg/L	0.047 U	0.048 U	0.047 U	NA	0.047 U	0.053 U	0.047 U
Miscellaneous								
Total Suspended Solids	mg/L	15.2	10.1	0.7	10.7	5	23.9	2.3

See Notes on Page 5.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

**Table G — Results for Upstream/Downstream Surface Water — Plainwell TCRA — Samples Collected in
September and October 2008**

Sample I.D.: Location ID: Sample Date:	Units	K30980 09/26/08 10th St.	K30981 09/28/08 Farmer St.	K30982 09/28/08 10th St.	K30983 09/30/08 Farmer St.	K30984 09/30/08 10th St.	K30985 10/02/08 Farmer St.	K30986 10/02/08 10th St.
PCB Aroclors								
Aroclor-1016	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Aroclor-1221	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Aroclor-1232	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Aroclor-1242	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Aroclor-1248	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Aroclor-1254	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Aroclor-1260	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Total PCBs	µg/L	0.050 U	0.057 U	0.061 U	0.056 U	0.053 U	0.055 U	0.051 U
Miscellaneous								
Total Suspended Solids	mg/L	11	11.3	7.8	3.9	14.8	1.7	6.6

See Notes on Page 5.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #22, December 2008

Table G — Results for Upstream/Downstream Surface Water — Plainwell TCRA — Samples Collected in September and October 2008

Sample I.D.: Location ID: Sample Date:	Units	K30987 10/04/08 Farmer St.	K30989 10/04/08 10th St.	K30990 10/06/08 Farmer St.	K30991 10/06/08 10th St.	K30992 10/08/08 Farmer St.	K30993 10/08/08 10th St.	K30994 10/10/08 Farmer St.	K30995 10/10/08 10th St.
PCB Aroclors									
Aroclor-1016	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Aroclor-1221	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Aroclor-1232	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Aroclor-1242	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Aroclor-1248	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Aroclor-1254	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Aroclor-1260	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Total PCBs	µg/L	0.049 U [0.051 U]	0.048 U	0.047 U	0.049 U	0.047 U	0.049 U	0.047 U	0.047 U
Miscellaneous									
Total Suspended Solids	mg/L	30.4 J [53 J]	2.7	1.1	6.6	1.5	4.6	7.4	2.2

Notes:

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

NA - Not analyzed.

Duplicate results are in brackets.

Data received in October 2008.